

ESCOBAR - URIBE ASOCIADOS

A B O G A D O S

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISIÓN DE NUEVAS CREACIONES

E. S. D.

Ref.: Expediente No. 00-025.231
Solicitud de Patente a nombre de
HOKURIKU SEIYAKU CO., LTD.

Yo, JIMENA ESCOBAR URIBE, identificada como aparece al pie de mi firma, domiciliada en Bogotá, en la Carrera 11 A No. 94-76 Of. 305, obrando como apoderada de la sociedad HOKURIKU SEIYAKU CO., LTD., domiciliada en Katsuyama-Shi, Fukui, Japón, solicitante de la patente de la referencia, pido a usted que se proceda a examinar si la invención, cuya patente se tramita en el expediente de la referencia, es patentable.

Adjunto al presente memorial el recibo No. 02 - 61,712 de septiembre 16, 2002, por la suma de \$318.000.00, con lo cual queda cubierta la tasa oficial correspondiente a dicho estudio.

Señor Superintendente,



JIMENA ESCOBAR URIBE

C.C. 39.779.452 de usaquén

T.P. 68.228

Cod. 5376

JEU/ra.

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SUPERINDUSTRIA Y COMERCIO
Radicacion : 00025231 00000023
Fecha (AND): 2002-09-26 16:37:22
Tramite : 002 PATENTES D 1 REGISTRO/ 538 PETICION
Recepcionada: 2002-09-26 16:37:22

2 331 315
Industria y Comercio
SUPERINTENDENCIA

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NIT : 800176089-2

SUPERINDUSTRIA Y COMERCIO
Radicacion : 00025231 00000033 Folios: 2
Fecha (AMD): 2002-09-26 16:37:13
Tramite : 002 PATENTES D 1 REGISTRO/ 538 PETICION
PAGA RENTACION DE NUEVAS CREACIONES

RECIBO OFICIAL DE CAJA : 02 - 61,712
FECHA : SEPTIEMBRE 16 DE 2002

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
BECOBAR URIBE ASOCIADOS	CONSIGNACION	BANCO POPULAR	050-00110-6	4884778	13/09/2002	4,005,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01	SOLICITUDES	
		85 EXAMEN DE PATENTABILIDAD DE INVEN	318,000.00
		TOTAL :	318,000.00

SON: TRESCIENTOS DIEZ Y OCHO MIL PESOS

RESPONSABLE : 

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

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2005-03-07
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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISIÓN DE NUEVAS CREACIONES

2020

Bogotá, DC, 10 de marzo de 2005

Apoderado: Jimena Escobar Uribe

Oficio:

ASUNTO

Radicación: 00-25231

12397

Trámite 002

Evento 001

Actuación 430

Folios

Como resultado del examen de fondo, realizado con fundamento en el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica:

Documentos estudiados:

a

- ◆capitulo descriptivo, folios 3 a 150;
- ◆capitulo reivindicatorio modificado, folios 179 a 182;
- ◆1° examen de forma, folios 164 y 165;
- ◆respuesta al 1° examen de forma, folios 342 a 343;
- ◆2° examen de forma, folio 381;
- ◆solicitud de la cual se reivindica prioridad y la traducción exigida, folios 168 a 317;
- ◆ solicitud del examen de patentabilidad, folios 320 y 321.

Objeto de la invención:

El título de la invención "DERIVADOS DE ERITROMICINA B O SALES DE LOS MISMOs, QUE POSEEN ÓPTIMA ACTIVIDAD ANTIBACTERIANA".

Tienen como objeto compuestos derivados de eritromicina y las formulaciones que los comprenden.

El campo de la invención, según la Clasificación Internacional de Patentes: A61K 31/70

Claridad de la solicitud:

En el artículo 30 de la Decisión 486 de la Comisión de la Comunidad Andina se establece: "Las reivindicaciones definirán la materia que se desea proteger

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mediante la patente. Deben ser claras y concisas y estar enteramente sustentadas por la descripción”.

-La reivindicación 5, no es clara puesto que reclama un agente antibacteriano caracterizado por contener uno de los derivados de la solicitud, y eso es exactamente la misma materia reclamada, en la reivindicación 4, además el “agente” no esta definido como tal.

-Las reivindicaciones 6 y 7 no son claras, puesto que el encabezado no es consistente con el resto del texto de la reivindicación. Un compuesto no se puede caracterizar por su uso o por el efecto terapéutico, un compuesto se caracteriza por su estructura química particular.

-Excepciones de Patentabilidad:

El artículo 20 de la Decisión 486 de la Comisión de la Comunidad Andina establece en su inciso d) que no serán patentables: *“los métodos terapéuticos o quirúrgicos para el tratamiento humano o animal, así como los métodos de diagnóstico aplicados a los seres humanos o a animales”.*

La reivindicación 8, reclama un método para tratamiento del cuerpo humano o animal, el cual incluye la administración de un compuesto de la presente solicitud en una cantidad eficaz, por lo tanto están inmersas bajo el alcance del artículo 20 de la Decisión 486.

Determinación del estado de la técnica:

El artículo 16 de la Decisión 486 de la Comisión establece: *“El estado de la técnica comprenderá todo lo que haya sido accesible al público por una descripción escrita u oral, utilización, comercialización o cualquier otro medio antes de la fecha de presentación de la solicitud de patente o, en su caso, de la prioridad reconocida.*

Sólo para el efecto de la determinación de la novedad, también se considerará dentro del estado de la técnica, el contenido de una solicitud de patente en trámite ante la oficina nacional competente, cuya fecha de presentación o de prioridad fuese anterior a la fecha de presentación o de prioridad de la solicitud de patente que se estuviese examinando, siempre que dicho contenido esté incluido en la solicitud de fecha anterior cuando ella se publique o hubiese transcurrido el plazo previsto

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en el artículo 40.”

Se realizo la búsqueda del estado de la técnica con fecha anterior a la fecha de presentación de la primera solicitud, de la cual se reivindica prioridad, 12 de enero1999. Consultada la fuente de información con que cuenta este despacho se encontró los siguientes documentos:

No.	Documento No.	Título	Fecha de Publicación
D1	EP0422843	6-0-Methylerythromycin A oxime derivatives	17-abril-1991
D2	EP0895999	C-4"substituted macrolide antibiotics	10 – feb-1990

Evaluación de los requisitos de patentabilidad:

El artículo 14 de la Decisión 486 de la Comisión de la Comunidad Andina establece: *“Los Países Miembros otorgarán patentes para las invenciones, sean de producto o de procedimiento, en todos los campos de la tecnología, siempre que sean nuevas, tengan nivel inventivo y sean susceptibles de aplicación industrial.”*

En cumplimiento con este artículo, se procedió a evaluar los requisitos de novedad, nivel inventivo y aplicación industrial con el fin de establecer la patentabilidad de la invención reivindicada en la solicitud en estudio.

Evaluación de la Novedad:

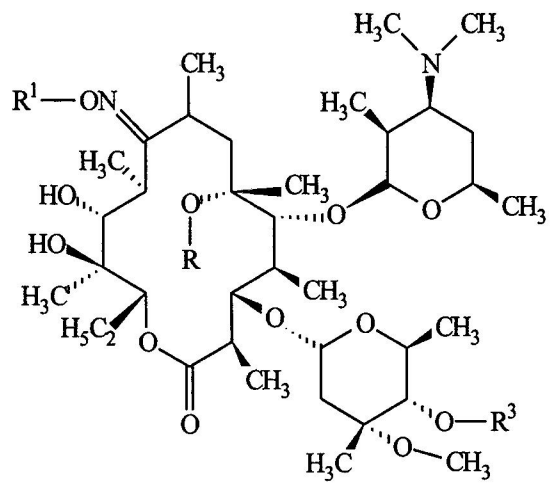
El art.16 de la Decisión 486 de la Comisión de la Comunidad Andina establece: *“Una invención se considerará nueva cuando no está comprendida en el estado de la técnica.” “El estado de la técnica comprenderá todo lo que haya sido accesible al público por una descripción escrita u oral, utilización, comercialización o cualquier otro medio antes de la fecha de presentación de la solicitud de patente o, en su caso, de la prioridad reconocida.*

Sólo para el efecto de la determinación de la novedad, también se considerará dentro del estado de la técnica, el contenido de una solicitud

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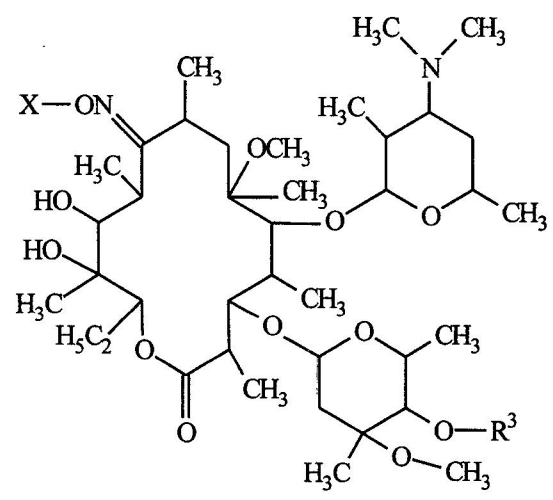
de patente en trámite ante la oficina nacional competente, cuya fecha de presentación o de prioridad fuese anterior a la fecha de presentación o de prioridad de la solicitud de patente que se estuviese examinando, siempre que dicho contenido esté incluido en la solicitud de fecha anterior cuando ella se publique o hubiese transcurrido el plazo previsto en el artículo 40."

La solicitud en estudio reclam compuestos macrolidos 9-oxima sustituidos de formula:



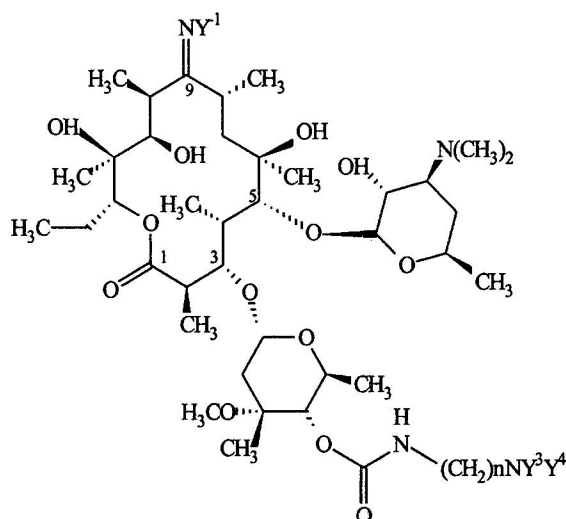
Y las sus sales.

-La anterioridad D1 enseña compuestos y composiciones que comprenden compuestos :



Igual que en la solicitud en estudio es 9-Oxima derivado de eritromicina, con los mismos sustituyentes, en la mismas posiciones, por lo tanto los compuestos de la solicitud en estudio no tienen novedad.

-D2 describe compuestos es 9-Oxima derivado de eritromicina de formula:



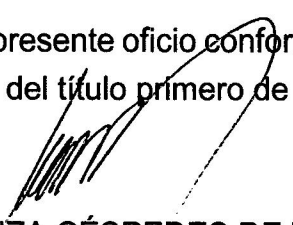
Especialmente los ejemplos 62 y 63, junto con las reivindicaciones 1 a 8, demuestran que los compuestos reclamados en la solicitud en estudio, no son nuevos, carecen de novedad.

Cuando una solicitud esta afectada su novedad, obviamente no posee nivel inventivo. En conclusión los requisitos de Patentabilidad de la presente solicitud **están** afectadas así:

No.	Documento	Reivindicaiones	Requisito que afecta
D1.	EP0422843	1 a 8	Novedad
D2	WO9602520	1 a 8	Novedad

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de sesenta días contados a partir de la fecha de notificación de la presente comunicación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la circular única No. 10 de 2001.


ALIX CARMENZA CÉSPEDES DE VERGEL
Jefe de División de Nuevas Creaciones

El anterior requerimiento fue notificado por fijación en lista, de fecha
 _____ 7 MAR. 2005

CONCEPTO TÉCNICO No. 369	EXAMINADOR TÉCNICO Código No. 202012
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Europäisches Patentamt
European Patent Office
Office européen des brevets



Publication number:

0 422 843 A2

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D 7 321

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EUROPEAN PATENT APPLICATION

21 Application number: 90310923.9

51 Int. Cl.⁵: C07H 17/08, A61K 31/70

22 Date of filing: 04.10.90

30 Priority: 07.10.89 JP 262797/89

43 Date of publication of application:
17.04.91 Bulletin 91/16

84 Designated Contracting States:
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

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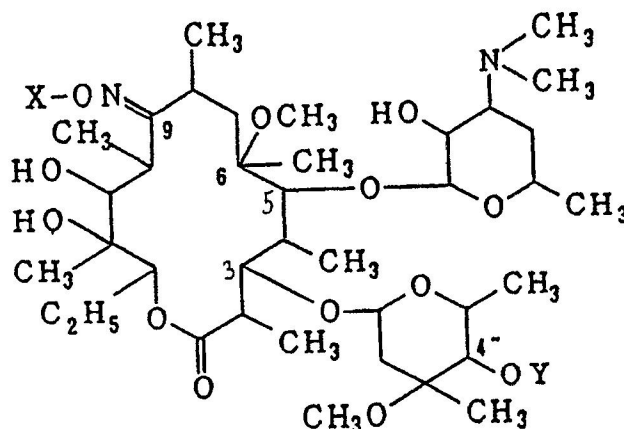
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54 6-O Methylerythromycin A oxime derivatives.

57 The invention provides 6-O-methylerythromycin A oxime derivatives of the formula:



in which

X is a benzyl group substituted on the benzene ring by 1 to 5 substituents selected from halogen atoms and C₁-C₅ alkyl, nitro, trifluoromethyl, phenyl, benzyl, styryl, 2-chlorobenzoyloxy, 3-(4-chlorophenyl)-1,2,4-oxadiazol-5-yl, and 2-methoxycarbonylbenzoyl groups; a phenyl group substituted by 1 to 3 nitro groups; an α -methylbenzyl

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group, a 1-alkoxycarbonylmethylindol-3-yl group of which alkoxy group has 1 to 3 carbon atoms, a 4-(pyrid-2-yl)piperazyl group or a pyridyl group substituted by 1 or 2 members selected from the group consisting of a halogen atom and a 2,2,2-trifluoroethoxy group, and n is an integer of from 1 to 6), Y is a hydrogen atom, a phenyl group substituted by a nitro group, or a 2-aminothiazol-4-yl-methylcarbonyl group, and a pharmaceutically acceptable salt thereof.

DETAILED DESCRIPTION OF THE INVENTION

In the present invention, the alkyl group having 1 to 5 carbon atoms refers to a straight or branched chain alkyl group such as, for example, a methyl group, an ethyl group, a propyl group, an isopropyl group, a butyl group and a t-butyl group. The alkoxy group having 1 to 3 carbon atoms as part of the 1-alkoxycarbonylmethylindol-3-yl group refers to, for example, a methoxy group, an ethoxy group and an isopropoxy group. The halogen atom refers to a fluorine atom, a chlorine atom, a bromine atom and an iodine atom.

The pharmaceutically acceptable salts of the present invention include salts with acids such as hydrochloric acid, hydrobromic acid, sulfuric acid, phosphoric acid, formic acid, acetic acid, propionic acid, butyric acid, citric acid, glycolic acid, lactic acid, tartaric acid, malic acid, maleic acid, fumaric acid, gluconic acid, oxalic acid, stearic acid, mandelic acid, thiocyanic acid, benzoic acid, succinic acid, p-toluenesulfonic acid, benzenesulfonic acid, methanesulfonic acid, laurylsulfonic acid, aspartic acid, glutamic acid, adipic acid, cysteine, nicotinic acid, acrylic acid polymer and carboxyvinyl polymer.

The compounds of Formula I of the present invention exist in two isomers (E- and Z-forms) derived from the 9-oxime group. The present invention is not limited to one of the two isomers, but E-form is preferred.

Among the preferred compounds of the present invention are those of Formula I wherein X is a benzyl group substituted on the benzene ring by an alkyl group having 1 to 5 carbon atoms or a halogen atom, or a group of the formula $-(CH_2)_n-R$ (wherein R is an anthracenyl group and n is an integer of from 1 to 3). Most preferred compounds are those wherein X is an anthracenylmethyl group, a 2,4,6-trimethylbenzyl group and a 4-(t-butyl)benzyl group.

The compounds of the present invention can be, for example, prepared as follows:

6-O-Methylerythromycin A 9-oxime (known in U.S. Patent No. 4,680,386), after dissolved in a suitable organic solvent, is reacted with a compound of the formula X-Z (wherein X is as defined above, and Z is a halogen atom) in the presence of a base to give a compound of Formula I in good yields. The suitable organic solvent used here means, for example, acetone, tetrahydrofuran, N,N-dimethylformamide, dimethyl sulfoxide and a mixture thereof. The base means, for example, sodium hydride, sodium hydroxide and potassium hydroxide. The reaction temperature is from -20 to 50°C , and preferably from 0 to 25°C .

The compounds of the present invention have strong antibacterial activity against Gram-positive and Gram-negative bacteria including erythromycin A resistant bacteria, and therefore, they are useful as antibacterial agents for the treatment of bacterial infectious diseases in human and animals including farm animals.

For the purpose, the compounds of the present invention can be administered orally or parenterally in a dosage form such as tablets, capsules, powders, troches, ointments, suspensions, suppositories and injectional solutions, all of which can be prepared according to the conventional pharmaceutical practices.

The daily dosage of the compound of Formula I in adult human may be from about 50 to 3000 mg per day in single or up to three divided doses.

The compounds of Formula I have low toxicity. The LD_{50} value in the case of oral administration is more than 2000 mg/kg in mice.

Experiment [In vitro antibacterial activity]

The in vitro antibacterial activity of the compounds of the present invention against various test bacteria was measured by an agar dilution technique using sensitivity test agar (Eiken) as a test medium according to the MIC method specified by the Japan Chemotherapeutic Society.

As comparative drugs, there were used erythromycin A, 6-O-methylerythromycin A, erythromycin A 9-methoxyethoxymethylloxime (roxithromycin) and 6-O-methylerythromycin A 9-methyloxime.

The results are represented by the MIC value (minimum inhibitory concentration to microorganisms, mcg/ml), and shown in Table 1.

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Symbols in the test drug of Table 1 mean the following compounds.

- a ; Erythromycin A
 b ; 6-O-Methylerythromycin A
 c ; Roxithromycin
 d ; 6-O-Methylerythromycin A 9-methyloxime
 A ; Compound No. 7 in Example described below.
 B ; Compound No. 2 in Example described below.
 C ; Compound No. 35 in Example described below.
 D ; Compound No. 4 in Example described below.
 E ; Compound No. 8 in Example described below.
 F ; Compound No. 1 in Example described below.
 G ; Compound No. 56 in Example described below.
 H ; Compound No. 55 in Example described below.
 I ; Compound No. 45 in Example described below.

Table 1 In vitro antibacterial activity

MIC value (mcg/ml)

Bacteria Test drug	S. aureus J-109	S. aureus B1
a	>100	>100
b	>100	>100
c	>100	>100
d	>100	>100
A	6.25	6.25
B	6.25	6.25
C	25	50
D	12.5	12.5
E	12.5	12.5
F	6.25	6.25
G	25	25
H	12.5	12.5
I	12.5	12.5

The present invention is illustrated in more detail by the following examples. Examples 1 to 7 indicate the compounds of the present invention obtained by using the typical preparation methods a to g, and Table 2 lists the compounds of the present invention with their physical properties and preparation

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To a solution of 6-O-methylerythromycin A 9-oxime (2 g, 2.62 mmole) in N,N-dimethylformamide (20 ml) were added trityl chloride (1.1 g, 5.24 mmole) and triethylamine (2 ml, 14.35 mmole), and the mixture was stirred at room temperature for 6 hours. Then, following extraction and purification similar to those of Example 1, there was obtained 60 mg of the title compound (Compound No. 40) as a white foam.

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Example 6 (Preparation method f)

10 Preparation of 6-O-methylerythromycin A 9-[O-(2-benzyloxycarbonylaminothiazol-4-ylmethyl)oxime]

To a solution of 6-O-methylerythromycin A 9-oxime (3 g, 3.93 mmole) in tetrahydrofuran (50 ml) were added 2-benzyloxycarbonylamino-4-chloromethylthiazole (1.2 mg, 4.2 mmole), tetrabutylammonium iodide (144 mg, 0.39 mmole) and 60% sodium hydride (472 mg, 11.8 mmole). Following a procedure similar to that of Example 1, there was obtained 1.12 g of the title compound (Compound No. 41) as a pale yellow foam.

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Example 7 (Preparation method g)

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Preparation of 4'-O-(2-aminothiazol-4-yl)methylcarbonyl-6-O-methylerythromycin A 9-[O-(2,4,6-trimethylbenzyl)oxime]

To a solution of the compound (447 mg, 0.5 mmole) obtained in Example 1 in dichloromethane (5 ml) were added at -70°C sodium bicarbonate (84 mg, 1 mmole) and bromoacetoacetyl bromide (122 mg, 0.5 mmole), and the mixture was stirred at -70°C for 5 minutes then at room temperature for 30 minutes. After evaporation of the dichloromethane under reduced pressure, the residue was dissolved in N,N-dimethylacetamide (5 ml), thiourea (76 mg, 1.0 mmole) was added thereto, and the mixture was stirred at room temperature for 17 hours. The reaction solution was extracted with ethyl acetate and washed with a saturated aqueous sodium chloride solution, and the ethyl acetate layer was dried over anhydrous magnesium sulfate. The ethyl acetate was evaporated under reduced pressure, and the residue was purified by silica gel column chromatography (eluent; chloroform: methanol: ammonia = 95:5:0.1) to give 170 mg of the title compound (Compound No. 44) as an orange yellow foam.

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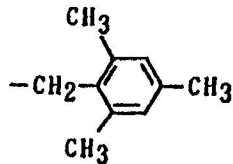
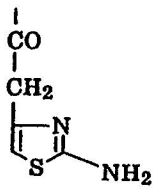
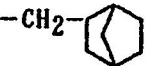
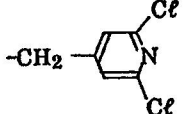
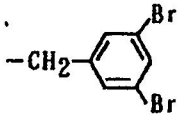
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Table 2 (Cont'd)

4 4			2. 25(3H, s) 2. 36, 2. 39(9H, s) 3. 01(3H, s) 3. 30(3H, s) 6. 42(1H, s) 6. 84(2H, s)		g
4 5		H	2. 40(6H, s) 3. 08(3H, s) 3. 33(3H, s)		a
4 6		H	2. 37(6H, s) 3. 10(3H, s) 3. 34(3H, s) 7. 20(2H, s)		a
4 7		H	2. 33(6H, s) 3. 08(3H, s) 3. 33(3H, s) 7. 40~7. 58(3H, m)		b

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(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 0 895 999 A1

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D 2 327

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
10.02.1999 Bulletin 1999/06

(51) Int Cl.⁶: C07H 17/08, A61K 31/70

(21) Application number: 98305956.9

(22) Date of filing: 27.07.1998

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

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(30) Priority: 06.08.1997 US 54866 P

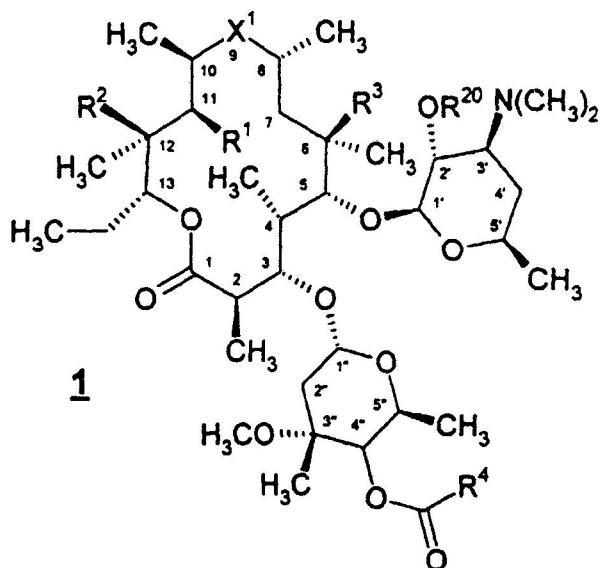
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(54) C-4" substituted macrolide antibiotics

(57) This invention relates to compounds of the formula



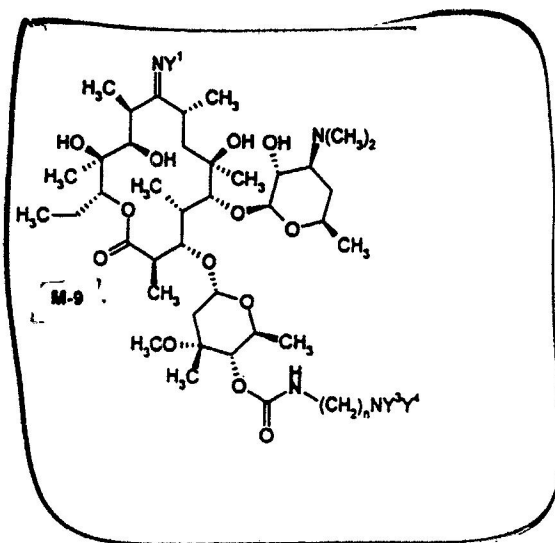
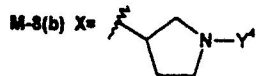
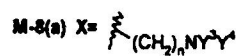
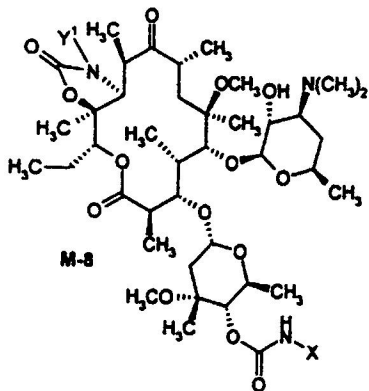
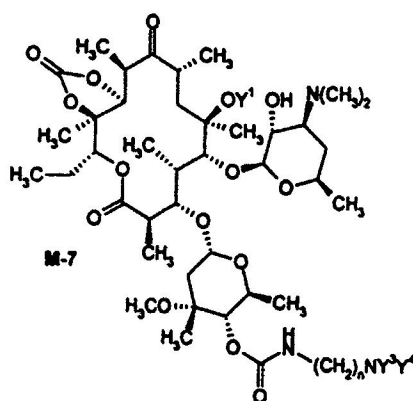
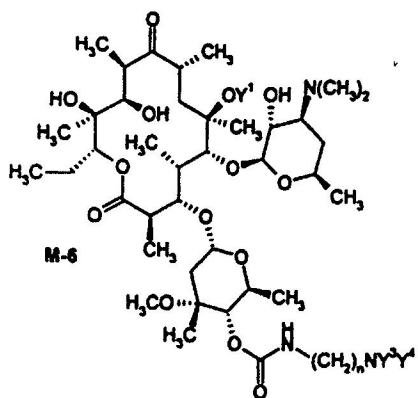
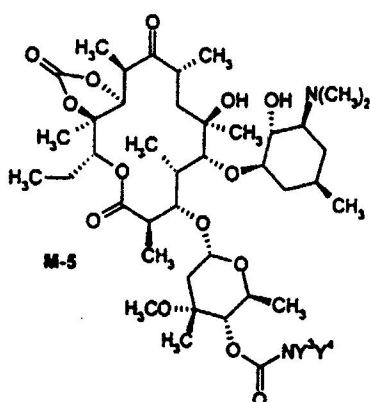
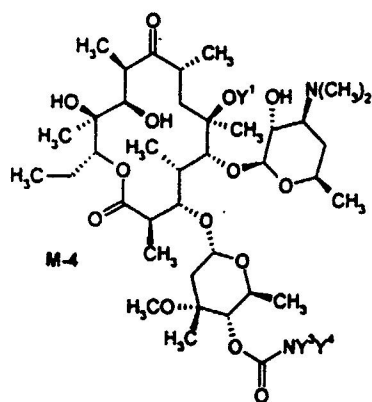
and to pharmaceutically acceptable salts thereof. The compounds of formula 1 are potent antibacterial and an-

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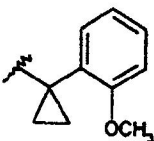
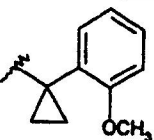
tiprotozoal agents that may be used to treat various bacterial and protozoal infections and disorders related to such infections. The invention also relates to pharmaceutical compositions containing the compounds of formula 1 and to methods of treating bacterial and protozoal infections by administering the compounds of formula 1.

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TABLE 2



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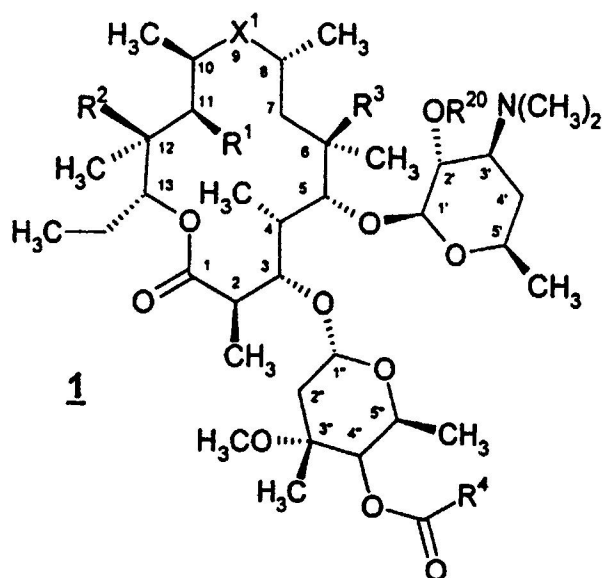
Ex	Mac	Y ¹	Y ²	n	Y ³	Y ⁴	Sch- eme	Mass Spec
53	M-8 (a)	H	-	2	CH ₃		3,2	1020 (M+1)
54	M-8 (a)	H	-	2	H		3,2	1006 (M+1)
55	M-8 (a)	NH ₂	-	2	CH ₃	2-methoxybenzyl	3,2	1009 (M+1)
56	M-8 (a)	NH ₂	-	2	H	2-methoxybenzyl	3,2	995 (M+1)
57	M-8 (a)	NH ₂	-	2	CH ₃	3,5-dimethyl-4- isoxazolymethyl	3,2	998 (M+1)
58	M-8 (a)	NH ₂	-	2	H	2-hydroxybenzyl	3,2	981 (M+1)
59	M-8 (a)	NH ₂	-	2	CH ₃	2-hydroxybenzyl	3,2	995 (M+1)
60	M-9	OH	-	2	2,4- dimethoxybenzyl	2,4- dimethoxybenzyl	3,2	1135 (M)
61	M-9	OH	-	2	H	3-(4- chlorophenoxy)- benzyl	3,2	1051 (M)
62	M-9	2- (dimethy- lamino) ethoxy	-	2	2,4- dimethoxybenzyl	2,4- dimethoxybenzyl	3,2	1206 (M)
63	M-9	2- methoxy ethoxy- methoxy	-	3	2,4- dimethoxybenzyl	2,4- dimethoxybenzyl	3,2	1239 (M+1)
64	M-9	OH	-	3	2,4- dimethoxybenzyl	2,4- dimethoxybenzyl	3,2	1150 (M+1)
65	M-10 (a)	-	-	2	H	4-chlorobenzyl	3,2	1008 (M+1)
66	M-10 (a)	-	-	2	4-chlorobenzyl	4-chlorobenzyl	3,2	1132 (M+1)
67	M-10 (a)	-	-	2	H	2,3- dimethoxybenzyl	3,2	1034 (M+1)
68	M-10 (a)	-	-	2	2,4- dimethoxybenzyl	2,4- dimethoxybenzyl	3,2	1184 (M+1)
69	M-10 (a)	-	-	2	H	2,4- dimethoxybenzyl	3,2	1034 (M+1)
70	M-10 (a)	-	-	2	2,4-difluorobenzyl	2,4-difluorobenzyl	3,2	1136 (M+1)
71	M-10	-	-	2	H	4-pyridylmethyl	3,2	975

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Ex	Mac	Y ¹	Y ²	n	Y ³	Y ⁴	Sch-eme	Mass Spec
255	M-12	H	H	2	isopropyl	(S)-1-(2,4-dimethoxyphenyl)-ethyl	3,2	1028 (M+1)
256	M-12	H	H	2	propyl	(R)-1-(2,4-dimethoxyphenyl)-ethyl	3,2	1028 (M+1)
257	M-12	H	H	2	propyl	(S)-1-(2,4-dimethoxyphenyl)-ethyl	3,2	1028 (M+1)
258	M-12	H	H	2	methyl	3-(2,5-dimethyl)-thiophenyl	3,2	973 (M+1)
259	M-12	H	H	2	methyl	3-(2,5-dichloro)-thiophenyl	3,2	1013 (M)

Claims

1. A compound of the formula



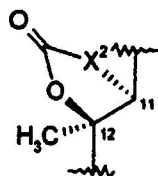
and to pharmaceutically acceptable salts thereof, wherein:

X¹ is -CH(-NR¹⁸R¹⁹)-, -C(O)-, -CH₂NR⁹, -NR⁹CH₂, or -C(=NR⁵)-, wherein the first dash of each of the foregoing X¹ groups is attached to the C-10 carbon of the compound of formula 1 and the last dash of each group is attached to the C-8 carbon of the compound of formula 1;

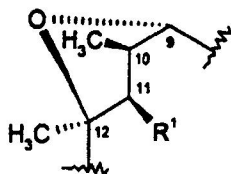
R¹ and R² are each independently OH;

or R² is O and R¹ is X², and they are taken together as follows:

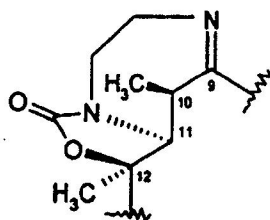
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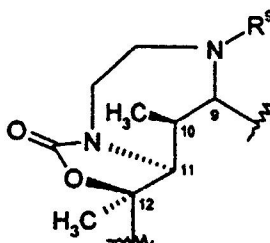
wherein X^2 is O, $-N(R^9)$ -, or $-N(NR^9R^{10})$;
or R^1 is oxo, OH, or $-NR^9R^{10}$, R^2 is O and X^1 is $-CH(-O)-$, and R^2 and X^1 are taken together as follows:



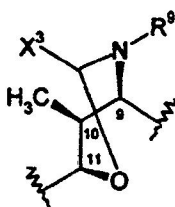
or R^1 is N, R^2 is O, X^1 is $-C(=N)-$ or $CH(-NR^9)-$, and R^1 is taken together with both R^2 and X^1 as follows:



or



or R^1 is O and X^1 is $-C(-NR^9)-$, and they are taken together as follows:



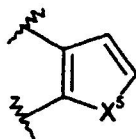
wherein X^3 is H, C_1-C_6 alkyl, or $-(CH_2)_mO(C_1-C_6 \text{ alkyl})$ wherein m is an integer ranging from 1 to 4 and the alkyl moieties of the foregoing X^3 groups are optionally substituted by 1 or 2 substituents independently selected from halo, $-NR^9R^{10}$ and OR^9 ;

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portion of groups 2, 3 and 4 is



or



wherein X^5 is $-\text{CH}=\text{CH}-$, $-\text{S}-$, or $-\text{N}(\text{R}^6)-$, and the above groups of formulas 2, 3, and 4, including the Z portions of said groups, are optionally substituted by 1 to 3 R^{16} groups;

each R^9 and R^{10} is independently H or $\text{C}_1\text{-C}_6$ alkyl;

each R^{11} , R^{12} , R^{13} and R^{14} is independently selected from H, $\text{C}_1\text{-C}_{10}$ alkyl, $\text{C}_1\text{-C}_{10}$ alkanoyl, $-(\text{CH}_2)_m(\text{C}_6\text{-C}_{10}$ aryl), $-\text{C}(\text{O})(\text{CH}_2)_m(\text{C}_6\text{-C}_{10}$ aryl), $-(\text{CH}_2)_m$ (4-10 membered heterocyclic), and $-\text{C}(\text{O})(\text{CH}_2)_m$ (4-10 membered heterocyclic), wherein m is an integer ranging from 0 to 4, and wherein the foregoing R^{11} , R^{12} , R^{13} and R^{14} groups, except H, are optionally substituted by 1 to 3 R^{16} groups;

or R^{11} and R^{13} are taken together to form $-(\text{CH}_2)_p-$ wherein p is an integer ranging from 0 to 3 and r + p equals at least 2, such that a 4-9 membered saturated ring is formed that optionally may be partially unsaturated by including 1 or 2 carbon-carbon double bonds;

or R^{13} and R^{14} are taken together with the nitrogen to which each is attached to form a 4-10 membered monocyclic or polycyclic saturated ring or a 5-10 membered heteroaryl ring, wherein said saturated and heteroaryl rings optionally include 1 or 2 heteroatoms selected from O, S and $-\text{N}(\text{R}^6)-$, in addition to the nitrogen to which R^{13} and R^{14} are attached, said $-\text{N}(\text{R}^6)-$ is optionally $=\text{N}-$ or $-\text{N}=$ where R^{13} and R^{14} are taken together as said heteroaryl group, said saturated ring optionally may be partially unsaturated by including 1 or 2 carbon-carbon double bonds, and said saturated and heteroaryl rings, including the R^6 group of said $-\text{N}(\text{R}^6)-$, are optionally substituted by 1 to 3 R^{16} groups;

or R^{13} and R^{14} are taken together to form $=\text{C}(\text{NR}^9\text{R}^6)\text{NR}^{10}\text{R}^7$;

or R^{13} is H and R^{14} is $-\text{C}(=\text{NR}^6)\text{NR}^9\text{R}^7$;

R^{15} is H or $\text{C}_1\text{-C}_{10}$ alkyl, wherein the alkyl is optionally substituted by 1 to 3 R^{16} groups;

each R^{16} is independently selected from halo, cyano, nitro, trifluoromethyl, azido, $-\text{C}(\text{O})\text{R}^{17}$, $-\text{C}(\text{O})\text{OR}^{17}$, $-\text{OC}(\text{O})\text{R}^{17}$, $-\text{OC}(\text{O})\text{OR}^{17}$, $-\text{NR}^6\text{C}(\text{O})\text{R}^7$, $-\text{C}(\text{O})\text{NR}^6\text{R}^7$, $-\text{NR}^6\text{R}^7$, hydroxy, $\text{C}_1\text{-C}_6$ alkyl, $-\text{S}(\text{O})_j(\text{C}_1\text{-C}_6$ alkyl) wherein j is an integer ranging from 0 to 2, $\text{C}_1\text{-C}_6$ alkoxy, $-(\text{CH}_2)_m(\text{C}_6\text{-C}_{10}$ aryl), and $-(\text{CH}_2)_m$ (5-10 membered heteroaryl), wherein m is an integer ranging from 0 to 4, said alkoxy group is optionally substituted by 1 to 3 groups selected from $-\text{NR}^9\text{R}^{10}$, halo, and OR^9 , and said aryl and heteroaryl substituents are optionally substituted by 1 to 5 substituents independently selected from halo, cyano, nitro, trifluoromethyl, azido, $-\text{C}(\text{O})\text{R}^{17}$, $-\text{C}(\text{O})\text{OR}^{17}$, $-\text{CO}(\text{O})\text{R}^{17}$, $-\text{OC}(\text{O})\text{OR}^{17}$, $-\text{NR}^6\text{C}(\text{O})\text{R}^7$, $-\text{C}(\text{O})\text{NR}^6\text{R}^7$, $-\text{NR}^6\text{R}^7$, hydroxy, $\text{C}_1\text{-C}_6$ alkyl, and $\text{C}_1\text{-C}_6$ alkoxy;

each R^{17} is independently selected from H, $\text{C}_1\text{-C}_{10}$ alkyl, $-(\text{CH}_2)_m(\text{C}_6\text{-C}_{10}$ aryl), and $-(\text{CH}_2)_m$ (4-10 membered heteroaryl), wherein m is an integer ranging from 0 to 4;

R^{18} and R^{19} are each independently selected from H, $\text{C}_1\text{-C}_6$ alkyl, $-\text{C}(=\text{NR}^5)\text{NR}^9\text{R}^{10}$, and $-\text{C}(\text{O})\text{R}^9$, or R^{18} and R^{19} are taken together to form $=\text{CH}(\text{CR}^9\text{R}^{10})_m(\text{C}_6\text{-C}_{10}$ aryl), $=\text{CH}(\text{CR}^9\text{R}^{10})_m$ (4-10 membered heterocyclic), $=\text{CR}^9\text{R}^{10}$, or $=\text{C}(\text{R}^9)\text{C}(\text{O})\text{OR}^9$, wherein m is an integer ranging from 0 to 4, and wherein the alkyl, aryl and heterocyclic moieties of the foregoing R^{18} and R^{19} groups are optionally substituted by 1 to 3 R^{16} groups; R^{20} is H or $-\text{C}(\text{O})\text{R}^9$.

2. The compound of claim 1 wherein X^1 is $-\text{CH}(\text{NH}_2)-$, R^4 is $-(\text{CH}_2)_n\text{NR}^8\text{R}^{15}$ wherein n is an integer ranging from 0 to 3, R^{15} is H or methyl, and R^8 is $-(\text{CH}_2)_q\text{CR}^{11}\text{R}^{12}(\text{CH}_2)_r\text{NR}^{13}\text{R}^{14}$ wherein q is 1 and r is 0, and R^{11} , R^{12} , R^{13} and R^{14} are as defined above.

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R^3 is hydroxy or methoxy;

R^4 is $-(CH_2)_nNR^8R^{15}$ wherein n is an integer ranging from 0 to 6 and said R^4 group is optionally substituted by 1 to 3 R^{16} groups, with the proviso that n is not 0 where R^8 is $-C(O)(C_1-C_{10}$ alkyl), $-C(O)(CH_2)_l(C_6-C_{10}$ aryl), or $-C(O)(CH_2)_l(4-10$ membered heterocyclic);

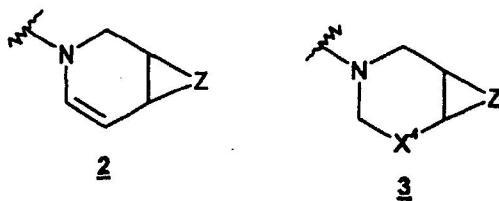
R^5 is hydroxy, C_1-C_6 alkyl, C_1-C_6 alkoxy, $-(CH_2)_m(C_6-C_{10}$ aryl), $-(CH_2)_m(4-10$ membered heterocyclic), or $-(CH_2)_mO(CH_2)_2OR^9$, wherein m is an integer ranging from 0 to 4 and z is an integer ranging from 1 to 6, and the foregoing R^5 groups, except hydroxy, are optionally substituted by 1 to 3 R^{16} groups;

each R^6 and R^7 is independently H, $-OR^9$, C_1-C_6 alkyl, $-(CH_2)_m(C_6-C_{10}$ aryl), or $-(CH_2)_m(4-10$ membered heterocyclic), wherein m is an integer ranging from 0 to 4, with the proviso that where R^6 and R^7 are both attached to the same nitrogen as $-NR^6R^7$, then R^6 and R^7 are not both $-OR^9$;

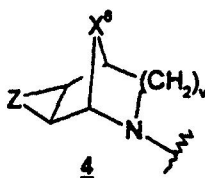
R^8 is C_1-C_{10} alkyl, $-C(O)(C_1-C_{10}$ alkyl), $-(CH_2)_qCR^{11}R^{12}(CH_2)_rNR^{13}R^{14}$ wherein q and r are each independently an integer ranging from 0 to 4 except that q and r are not both 0, $-(CH_2)_l(C_6-C_{10}$ aryl), $-(CH_2)_l(4-10$ membered heterocyclic), $-C(O)(CH_2)_l(C_6-C_{10}$ aryl), $-(CH_2)_lO(CH_2)_l(C_6-C_{10}$ aryl), $-C(O)(CH_2)_l(4-10$ membered heterocyclic), $-SO_2(CH_2)_l(C_6-C_{10}$ aryl), or $-SO_2(CH_2)_l(4-10$ membered heterocyclic), wherein j is an integer ranging from 0 to 2, t is an integer ranging from 0 to 5, the $-(CH_2)_t$ moieties of the foregoing R^8 groups optionally include a carbon-carbon double or triple bond where t is an integer between 2 and 5, and the foregoing R^8 groups are optionally substituted by 1 to 3 R^{16} groups;

or R^{15} and R^8 may be taken together with the nitrogen to which each is attached to form a 4-10 membered saturated monocyclic or polycyclic saturated ring or a 5-10 membered heteroaryl ring, wherein said saturated and heteroaryl rings optionally include 1 or 2 heteroatoms selected from O, S and $-N(R^6)-$ in addition to the nitrogen to which R^{15} and R^8 are attached, said $-N(R^6)-$ is optionally $=N-$ or $-N=$ where R^{15} and R^8 are taken together as said heteroaryl group, said saturated ring optionally may be partially unsaturated by including 1 or 2 carbon-carbon double bonds, and said saturated and heteroaryl rings, including the R^6 group of said $-N(R^6)-$, are optionally substituted by 1 to 3 R^{16} groups;

or R^{15} and R^8 may be taken together with the nitrogen to which each is attached to form a polycyclic moiety of the formula

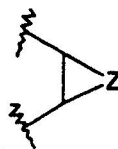


or

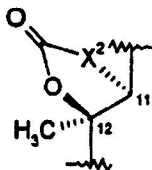


wherein v is 0 or 1, X^4 is $-C(O)-$, $-CH(OH)-$, $-(CH_2)_m-$, $-N(R^6)(CH_2)_m-$, $-(CH_2)_mN(R^6)-$ or $-(CH_2)_mO-$ wherein m is an integer ranging from 0 to 2, and X^6 is $-(CH_2)_w-$ wherein w is 1 or 2, $-CH_2O-$, $-OCH_2-$, $-CH_2N(R^9)-$, or $-N(R^9)CH_2-$;

the



5 3. The compound of claim 1 wherein X^1 is $-C(O)-$, R^4 is $-(CH_2)_nNR^8R^{15}$ wherein n is an integer ranging from 0 to 3, R^{15} is H or methyl, R^8 is $-(CH_2)_qCR^{11}R^{12}(CH_2)_rNR^{13}R^{14}$ wherein q is 1 and r is 0, and R^{11} , R^{12} , R^{13} and R^{14} are as defined above; and R^1 is X^2 and R^2 is O, and they are taken together as follows:



20 4. The compound of claim 1 wherein X^1 is $-N(CH_3)CH_2-$, R^1 and R^2 are OH, R^4 is $-(CH_2)_nNR^8R^{15}$ wherein n is an integer ranging from 0 to 3, R^{15} is H or methyl, and R^8 is $-(CH_2)_qCR^{11}R^{12}(CH_2)_rNR^{13}R^{14}$ wherein q is 1 and r is 0, and R^{11} , R^{12} , R^{13} and R^{14} are as defined above.

6. The compound of claim 1 selected from the group consisting of:

- 11N-ethylene 6-O-methyl-erythromycin, 11,12-cyclic carbamate;
4*-O-[2-(N,N-bis-2,4-dimethoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N-3-methoxybutyl-N-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N-2-methoxybenzyl)aminoethyl]aminocarbonyl-11-deoxy-11-amino 6-O-methylerythromycin,
11,12-cyclic carbamate;
4*-O-[2-(N-3-furylmethyl)aminoethyl]aminocarbonyl-11-deoxy-11-amino 6-O-methylerythromycin clarithromycin, 11,12-cyclic carbamate;
4*-O-[2-(N-3-methoxybutyl-N- α -methyl-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-[2-(2-methoxyphenyl)-pyrrolin-1-yl]ethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N-2-tetrahydrofurylmethyl-N- α -methyl-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N-tetrahydropyran-4-yl-N-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-[N-(2-isopropoxy)ethyl-N-2-methoxybenzyl]aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-[N-(2-ethoxy)ethyl-N-2-methoxybenzyl]aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N-ethyl-N-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N-isopropyl-N-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N-propyl-N-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N-cyclopropylmethyl-N-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N-methyl-N- α -methyl-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N-ethyl-N- α -methyl-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N-propyl-N- α -methyl-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N- α -methyl-2-methoxybenzyl)aminoethyl]aminocarbonyl azithromycin;
4*-O-[2-(N-isopropyl-N-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine, methyl pyruvate imine;
4*-O-[2-(N-allyl-N- α -methyl-2-methoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
4*-O-[2-(N-3-methoxybutyl-N-3-ethyl-5-methylisoxazol-4-ylmethyl)aminoethyl]aminocarbonyl 6-O-methylerythromycin;
4*-O-[2-(N-3-methoxybutyl-N-3,5-dimethylisoxazol-4-ylmethyl)aminoethyl]aminocarbonyl erythromycylamine;

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by *E. coli*; cow hairy warts related to infection by *Fusobacterium necrophorum* or *Bacteroides nodosus*; cow pinkeye related to infection by *Moraxella bovis*; cow premature abortion related to infection by protozoa; urinary tract infection in a dog or cat related to infection by *E. coli*; skin or soft tissue infection in a dog or cat related to infection by *Staph. epidermidis*, *Staph. intermedius*, *coagulase neg. Staph.* or *P. multocida*; or dental or mouth infection in a dog or cat related to infection by *Alcaligenes* spp., *Bacteroides* spp., *Clostridium* spp., *Enterobacter* spp., *Escherichia coli*, *Peptostreptococcus*, *Porphyromonas*, or *Prevotella*.

9. A method of treating a disorder selected from a bacterial infection, a protozoal infection, and a disorder related to a bacterial infection or protozoal infection in a mammal, fish, or bird which comprises administering to said mammal, fish or bird a therapeutically effective amount of a compound of claim 1.

10. The method of claim 9 wherein said disorder is

pneumonia, otitis media, sinusitis, bronchitis, tonsillitis, or mastoiditis related to infection by *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Moraxella catarrhalis*, *Staphylococcus aureus*, or *Peptostreptococcus* spp.; pharyngitis, rheumatic fever, or glomerulonephritis related to infection by *Streptococcus pyogenes*, Groups C and G streptococci, *Clostridium diphtheriae*, or *Actinobacillus haemolyticum*; a respiratory tract infections related to infection by *Mycoplasma pneumoniae*, *Legionella pneumophila*, *Streptococcus pneumoniae*, *Haemophilus influenzae*, or *Chlamydia pneumoniae*; uncomplicated skin or soft tissue infection, abscess or osteomyelitis, or puerperal fever related to infection by *Staphylococcus aureus*, coagulase-positive staphylococci (i.e., *S. epidermidis*, *S. hemolyticus*, etc.), *Streptococcus pyogenes*, *Streptococcus agalactiae*, Streptococcal groups C-F (minute-colony streptococci), viridans streptococci, *Corynebacterium minutissimum*, *Clostridium* spp., or *Bartonella henselae*; uncomplicated acute urinary tract infection related to infection by *Staphylococcus saprophyticus* or *Enterococcus* spp.; urethritis, or cervicitis; a sexually transmitted disease related to infection by *Chlamydia trachomatis*, *Haemophilus ducreyi*, *Treponema pallidum*, *Ureaplasma urealyticum*, or *Neisseria gonorrhoeae*; toxin disease related to infection by *S. aureus* (food poisoning or toxic shock syndrome), or Groups A, B, and C streptococci; ulcer related to infection by *Helicobacter pylori*; systemic febrile syndrome related to infection by *Borrelia recurrentis*; Lyme disease related to infection by *Borrelia burgdorferi*; conjunctivitis, keratitis, and dacrocystitis related to infection by *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *S. aureus*, *S. pneumoniae*, *S. pyogenes*, *H. influenzae*, or *Listeria* spp.; disseminated *Mycobacterium avium* complex (MAC) disease related to infection by *Mycobacterium avium*.

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4^a-O-[2-(N-methyl-N-3,5-dimethylisoxazol-4-ylmethyl)aminoethyl]aminocarbonyl-11-deoxy-11-amino 6-O-methyl-erythromycin, 11,12-cyclic carbamate;
 4^a-O-[2-(N-methyl-N-3,5-dimethylisoxazol-4-ylmethyl)aminoethyl]aminocarbonyl 6-O-methyl-erythromycin;
 4^a-O-[2-(N-3,5-dimethylisoxazol-4-ylmethyl)aminoethyl]aminocarbonyl 6-O-methylerythromycin;
 4^a-O-[2-(N-2-methoxybenzyl)aminoethyl]aminocarbonyl-11-deoxy-11-amino 6-O-methylerythromycin, 11,12-cyclic carbamate;
 4^a-O-[2-(N- α -butyl-2-methoxybenzyl)aminoethyl]aminocarbonyl-11-deoxy-11-amino 6-O-methyl-erythromycin, 11,12-cyclic carbamate;
 4^a-O-[2-(N-methyl-N- α -ethyl-2-methoxybenzyl)aminoethyl]aminocarbonyl azithromycin;
 4^a-O-[2-(N-2-methoxy-5-isopropylbenzyl)aminoethyl]aminocarbonyl-11-deoxy-11-amino 6-O-methyl-erythromycin, 11,12-cyclic carbamate;
 4^a-O-[4-(benzo[d]isoxazol-3-yl)-piperazin]carbonyl-11-deoxy-11-amino 6-O-methylerythromycin, 11,12-cyclic carbamate;
 4^a-O-[2-(N-chroman-4-yl)aminoethyl]aminocarbonyl-11-deoxy-11-amino 6-O-methyl-erythromycin, 11,12-cyclic carbamate;
 4^a-O-[2-(N-propyl-N- α -methyl-2,4-dimethoxybenzyl)aminoethyl]aminocarbonyl erythromycylamine;
 4^a-O-[2-(N-ethyl-N- α -methyl-2-methoxybenzyl)amino]butyryl erythromycylamine;
 4^a-O-[2-(N-3-methoxybutyl-N-3-methoxypyridin-4-ylmethyl)aminoethyl]aminocarbonyl-6-O-methyl erythromycylamine;
 4^a-O-[2-(N-methyl-N- α -methyl-2,5-dichloro-thiophen-3-ylmethyl)aminoethyl]aminocarbonyl-6-O-methyl erythromycylamine;
 4^a-O-[2-(N-methyl-N- α -methyl-2,5-dimethyl-thiophen-3-ylmethyl)aminoethyl]aminocarbonyl-6-O-methyl erythromycylamine;

and the pharmaceutically acceptable salts of the foregoing compounds.

7. A pharmaceutical composition for the treatment of a disorder selected from a bacterial infection, a protozoal infection, and a disorder related to a bacterial infection or protozoal infection in a mammal, fish, or bird which comprises a therapeutically effective amount of a compound of claim 1 and a pharmaceutically acceptable carrier.

8. The pharmaceutical composition of claim 7 wherein said disorder is

pneumonia, otitis media, sinusitis, bronchitis, tonsillitis, or mastoiditis related to infection by *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Moraxella catarrhalis*, *Staphylococcus aureus*, or *Peptostreptococcus* spp.; pharyngitis, rheumatic fever, or glomerulonephritis related to infection by *Streptococcus pyogenes*, Groups C and G streptococci, *Clostridium diphtheriae*, or *Actinobacillus haemolyticum*; a respiratory tract infections related to infection by *Mycoplasma pneumoniae*, *Legionella pneumophila*, *Streptococcus pneumoniae*, *Haemophilus influenzae*, or *Chlamydia pneumoniae*; uncomplicated skin or soft tissue infection, abscess or osteomyelitis, or puerperal fever related to infection by *Staphylococcus aureus*, coagulase-positive staphylococci (i.e., *S. epidermidis*, *S. hemolyticus*, etc.), *Streptococcus pyogenes*, *Streptococcus agalactiae*, Streptococcal groups C-F (minute-colony streptococci), viridans streptococci, *Corynebacterium minutissimum*, *Clostridium* spp., or *Bartonella henselae*; uncomplicated acute urinary tract infection related to infection by *Staphylococcus saprophyticus* or *Enterococcus* spp.; urethritis, or cervicitis; a sexually transmitted disease related to infection by *Chlamydia trachomatis*, *Haemophilus ducreyi*, *Treponema pallidum*, *Ureaplasma urealyticum*, or *Neisseria gonorrhoeae*; toxin disease related to infection by *S. aureus* (food poisoning or toxic shock syndrome), or Groups A, B, and C streptococci; ulcer related to infection by *Helicobacter pylori*; systemic febrile syndrome related to infection by *Borrelia recurrentis*; Lyme disease related to infection by *Borrelia burgdorferi*; conjunctivitis, keratitis, and dacrocystitis related to infection by *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *S. aureus*, *S. pneumoniae*, *S. pyogenes*, *H. influenzae*, or *Listeria* spp.; disseminated *Mycobacterium avium* complex (MAC) disease related to infection by *Mycobacterium avium*, or *Mycobacterium intracellulare*; gastroenteritis related to infection by *Campylobacter jejuni*; intestinal protozoa related to infection by *Cryptosporidium* spp.; odontogenic infection related to infection by viridans streptococci; persistent cough related to infection by *Bordetella pertussis*; gas gangrene related to infection by *Clostridium perfringens* or *Bacteroides* spp.; atherosclerosis or cardiovascular disease related to infection by *Helicobacter pylori* or *Chlamydia pneumoniae*; bovine respiratory disease related to infection by *P. haemolytica*, *P. multocida*, *Mycoplasma bovis*, or *Bordetella* spp.; cow enteric disease related to infection by *E. coli* or protozoa; dairy cow mastitis related to infection by *Staph. aureus*, *Strep. uberis*, *Strep. agalactiae*, *Strep. dysgalactiae*, *Klebsiella* spp., *Corynebacterium*, or *Enterococcus* spp.; swine respiratory disease related to infection by *A. pleuro.*, *P. multocida*, or *Mycoplasma* spp.; swine enteric disease related to infection by *E. coli*, *Lawsonia intracellularis*, *Salmonella*, or *Serpulina hyodysenteriae*; cow footrot related to infection by *Fusobacterium* spp.; cow metritis related to infection

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

RADICACIÓN: 0-25231

EDICTO No. 8882

LA SECRETARÍA GENERAL AD-HOC HACE SABER:

Que esta Superintendencia profirió Resolución No. 15787 de 01-JUL-2005. Que el contenido de la parte resolutive es como sigue:
Superintendente de Industria y Comercio AdHoc.

RESUELVE

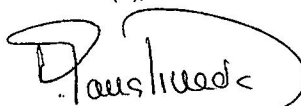
ARTICULO PRIMERO: Negar el privilegio de patente de invención para la solicitud correspondiente a "DERIVADOS DE ERITROMICINA B O SALES DE LOS MISMOS, QUE POSEEN OPTIMA ACTIVIDAD ANTIBACTERIANA".

ARTICULO SEGUNDO: Notificar personalmente el contenido de la presente resolución a la doctora Jimena Escobar Uribe, o a quien haga sus veces, en su calidad de apoderada de Hokuriku Seiyaku Co., Ltd., entregándole copia de la misma, advirtiéndole que contra ella procede el recurso de reposición interpuesto ante el Superintendente de Industria y Comercio, al momento de la notificación o dentro de los 5 días hábiles siguientes a ella.

NOTIFÍQUESE Y CUMPLASE

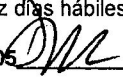
Dada en Bogotá, D.C., a los 1 JUL. 2005

EL SUPERINTENDENTE DE INDUSTRIA Y COMERCIO (E),



MARIA TERESA PINEDA BUENEVENTURA

Para notificar a los interesados, se fija el presente EDICTO en lugar visible al público en la SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO, por el término de (10) diez días hábiles contados a partir de las 8:30 a.m. de hoy.

Secretaría General Ad-Hoc 26-JUL-2005  Este edicto se desfija hoy 08-AGO-2005 a las cinco (5:00 p.m.) 

Secretaría General Ad-Hoc
EDICTO No. 8882